

Amendments to the Claims

Claims 1-72 (Cancelled)

Claim 73 (Currently amended): A transgenic plant comprising:

A nucleotide construct encoding a recombinant animal viral antigen protein, said construct including one or more of the following to regulate expression of said sequence:

a promoter that preferentially targets expression to an edible tissue of a plant;

a 5' non translated leader sequence, and

~~an enhancer sequence,~~

wherein said recombinant animal viral antigen protein is expressed in said plant at a level sufficient to induce an immune response when said plant is orally administered to an animal.

Claim 74 (Original): The plant of claim 73 wherein said protein is chimeric by being fused to another peptide, polypeptide or protein.

Claim 75 (Original): The plant of claim 73 wherein said plant is a tomato plant.

Claims 76-82 (Cancelled)

Claim 83 (Previously presented): An edible transgenic plant expressing a recombinant animal viral antigen protein, said protein expressed at a level so that upon consumption of said edible plant, by an animal or human, an immunogenic response is elicited.

Claim 84 (Currently amended): The plant of claim 83 wherein said protein is expressed at a level of about at least about 43 ng/mg or higher of total soluble protein.

Claims 85-97 (Cancelled)

Claim 98 (Previously presented): A transgenic monocot plant having plant tissue wherein said plant tissue is expressing a recombinant viral antigen protein, said protein expressed at a level such that when said plant tissue is orally administered to the animal, an immune response is elicited.

Claim 99 (Previously presented): A plant comprising a recombinant viral antigen which triggers production of antibodies to an animal viral antigen, upon oral administration of said plant to a human or animal, said antigen being a product produced by the method of :  
Expressing said immunogen in a transgenic monocot plant.

Claim 100 (Currently amended): An edible plant comprising a protein which triggers a mucosal immune response to a viral antigen protein in a human or other animal, said protein being a product produced by the method of: expressing said protein in a transgenic edible plant.

Claim 101 (Currently amended): A transgenic edible plant, said plant comprising:  
A nucleotide construct which encodes a recombinant animal viral antigen protein, said construct including one or more of the following to regulate expression of said sequence:

a promoter that preferentially targets expression to an edible tissue of a plant;

a 5' nontranslated leader sequence, and

— ~~an enhancer sequence,~~

wherein said recombinant animal viral antigen protein is expressed in said plant at a level sufficient to induce an immune response when said plant is orally administered to a human or animal and further wherein said plant is monocot.

Claim 102 (New): A transgenic plant which (a) expresses a DNA sequence coding for a surface antigen or antigenic determinant thereof, of hepatitis B virus or transmissible gastroenteritis virus, and (b) induces a mucosal immune response to the hepatitis B virus or transmissible gastroenteritis virus in a human or other animal, said immune response elicited by the antigen expressed in said plant.

Claim 103 (New): The transgenic plant of claim 102, wherein said transgenic plant comprises an edible tissue or organ.

Claim 104 (New): The surface antigen of claim 102, wherein said surface antigen is a hepatitis B virus surface antigen or a transmissible gastroenteritis virus spike protein.